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# BANISTER RIVER

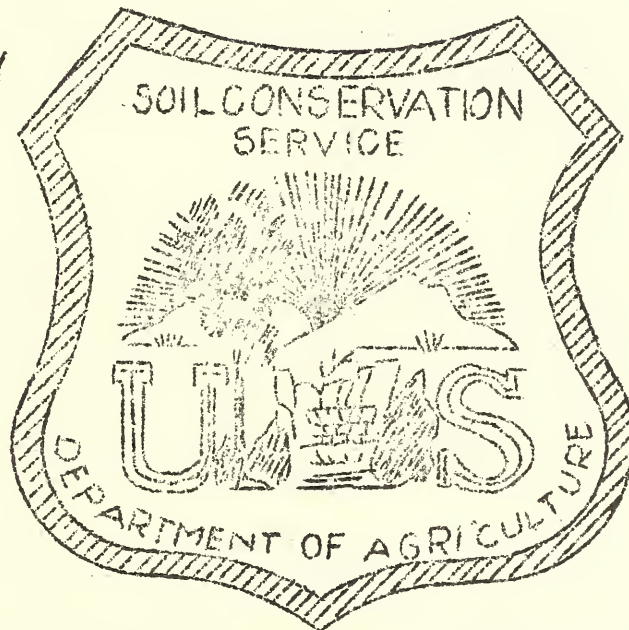
## BANNER

PROJECT 22

CHATHAM, VA.

JULY

1935



- AREAS -  
BANISTER RIVER  
IN  
PITTSYLVANIA COUNTY  
AND  
SANDY RIVER  
IN  
PITTSYLVANIA AND HENRY CO'S.  
VIRGINIA

## ENGINEERING DEPARTMENT

The recent heavy rains have tested the terrace systems constructed by the Soil Conservation Service. In a few cases, water has overtopped the terrace ridge, but the percentage is small since we have nearly 500 miles of terraces in the Banister River Watershed.

The Engineering Department is very much interested as well as elated after inspecting most of the terrace failures. In practically every case where a terrace failed, it was due to either working the original terrace down too low or improper maintenance. Since these recent heavy rains, there is no better opportunity for the farmers to study and get an idea of what is required of a terrace system during such a downpour. Incorporate these ideas in your maintenance schedule and endeavor to keep the original cross section of the terrace as constructed. After each rain farmers who have terraces should inspect them closely. They should remove silt deposits or debris that has accumulated in the channel. By noticing the water mark on the ridge, one can detect very plainly low or weak places in the ridge. These places should be built up and maintained as soon as possible. Periodic inspection of terrace systems must become a habit if they are to be beneficial and serve the purpose for which they are intended.

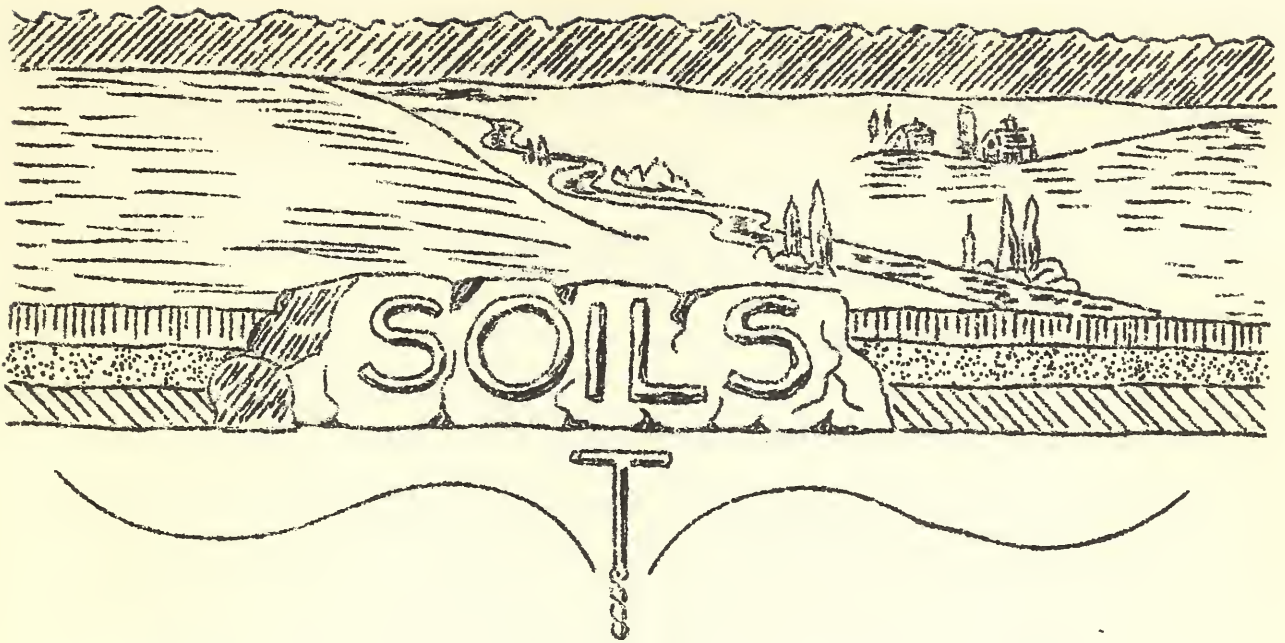
It is the Engineers urgent plea that all cooperators get the terrace inspection and maintenance habit. Any members of the Engineering Staff of the Soil Conservation Service will be glad at any time to go over your terrace system with you, and show you the proper methods of working and maintaining your terraces. Feel free at any time to call on us because we are interested, not only in their construction, but we are vitally interested in the service they give you, as well as the service or care you give them. Please bear in mind that it was your agreement to maintain the terraces constructed on your farm. We are more than willing to do our part.

Terraces are permanent control structures, providing they are properly maintained. Their maintenance depends entirely upon the farmer and he should endeavor to learn the proper methods as early as possible. Older constructed terraces should be worked up and broadened by proper plowing. Newly constructed terraces should be treated as follows: First, coulters the hard subsoil in the water channel. Second, harrow lightly with a spike tooth harrow to prepare a seed bed, being careful to merely round the terrace ridge without lowering its height much. Third, seed the ridge and allow it to settle naturally to the desired height.

There are a few inexpensive implements, if available, will help very materially in maintaining your terraces, such as a light drag pan for building up low places in the ridge or repairing run-over. The hillside plow is almost indispensable in plowing land that has been terraced. With this implement you can plow all soil up hill efficiently and eliminate the laying off of lands. Run-off water has a tendency to move soil down hill, therefore, you should endeavor to gradually work the soil back up the hill. You will find the hillside plow very satisfactory.

Where you have row crops on terraced fields, it is the practice to let the short rows empty into the water channel of the terrace. It is very essential to clean the channel after each rain and each cultivation of any silt deposits. A very inexpensive homemade plank V drag can be constructed that will be very efficient in cleaning terrace channels.





## SOILS GENERAL TERMS USED

Soil Region - May include several provinces. Separations may be made on climatic conditions, geological formations or topographic features.

Soil Province - Is a group of soil or soil series based on broad general resemblance in profile characteristics.

Soil Series - Is a group of soils having similar characteristics, such as in color, structure, and chemical composition. They occur under similar relief and drainage and have the same origin.

Soil Class - Includes all soils having the same texture, such as, clay loam, sandy loam, peat, etc.

Soil Type - Is a member of the soil series separated from other types of the same series on the basis of texture or size of particles, and other definite characteristics.

Soil Profile - Is the name given to the three soil horizons or layers, the A, B, and C Horizon.

A Horizon - The upper horizon or the surface layer of the soil mass, often called the top soil. The A horizon of the soils of this area at one time averaged a depth of 12" as determined by virgin profiles.

B Horizon - A term used to designate the subsoil or layer of soil beneath the surface soil.

C Horizon - The unaltered layer of material below B Horizon; parent material from which the soil is derived.

## EROSION DEPARTMENT

In the June issue of the Banner several questions were raised regarding various ways by which erosion is encouraged. By the use of illustration on opposite page, we will discuss means of minimizing the amount of erosion and run-off water.

We invite you to study carefully with reference to your farm the method of farming shown on the opposite page.

The common practice of running rows up and down the slope is often disastrous to productive farms. Severe soil losses have resulted because of the scouring effect of the run-off water in its rapid descend down the implement furrows, and in many cases this practice answers the question why some farms have been completely destroyed by gullies. The simple practice of running rows on the contour of the land will help check this destruction. The ridges left by the cultivators will hold back the run-off water and evenly distribute it over the entire field. Even though these ridges may break over during heavy rains, they will greatly lessen the amount of erosion, whereas the rows up and down the slope will encourage erosion.

In many fields the practice of running rows straight across the slope does not suffice in giving best results, because of the hollows and pockets that water may collect in and cause gullies. Rows should be run on the contour as shown on the opposite page, and thus each row will act as a small terrace. In laying off rows for a cultivated crop, locate the first row on the crest of the terrace and continue to lay off parallel rows until you reach terrace channel below. Any land left should be worked in short rows emptying into water channel.

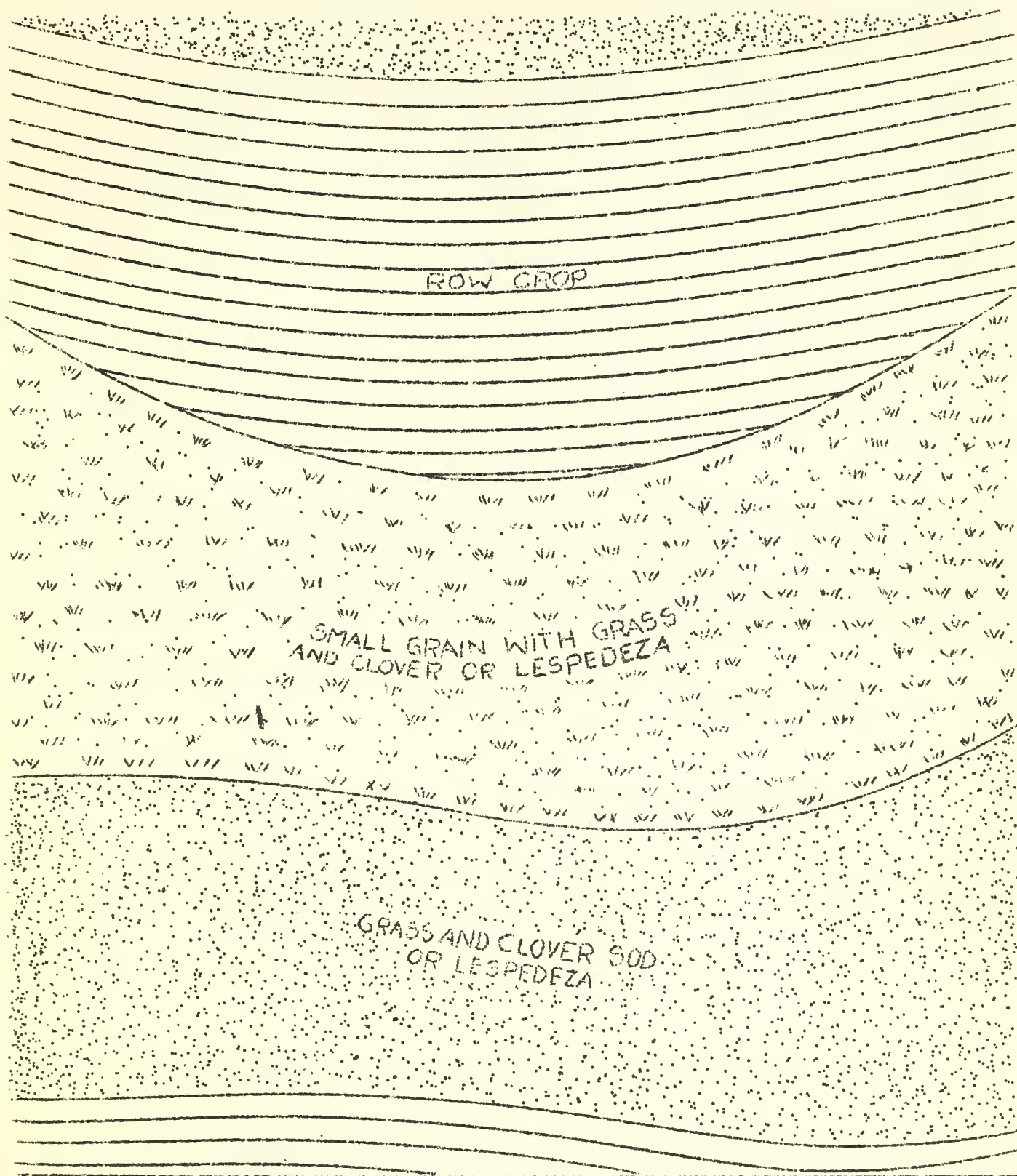
Shallow plowing encourages sheet erosion in that, it leaves a hard pan through which the water cannot penetrate; eventually developing into small gullies to the depth of the plowed soil. While deep plowing leaves the soil in a porous condition, deep enough to absorb the rain water.

Are you aware of the fact that when you burn the organic matter on your farm you are being extravagant with your principal resource for a living, the soil? Organic matter plays a vital part in conserving the soil in that it acts as a sponge to absorb water, thus increasing the moisture content and reinforcing the soil against sheet and gully erosion.

If you have ceased to follow a rotation of crops you have ceased to follow the basic principal of all your farm practices. Without it no erosion control program is complete. The recurrent succession of different crops on the same land, not only helps hold the soil in place by the use of a soil binding crop, but provides organic matter which is also essential in conserving the soil.

In case a small gully starts in one of your cultivated fields, a protective measure should be applied. An effective sod may be established with the aid of brush or straw. Constant attention should be given a field where gullies are present or have been present, because they give trouble far greater than time and cost of prevention. A meadow strip left in a natural drain is very effective in preventing gullying.





## STRIP ROTATION (WITHOUT TERRACES)

## AGRONOMY NOTES

### Controlling Water Channels with Meadow Strips

The Soil Conservation Service has always believed that vegetation should play an important part in controlling erosion. Not only can it be used in a crop rotation or in forming a permanent sod on steep eroded fields, but it can be effectively used, under certain conditions, to control terrace outlet channels or natural waterways. On most every farm there are natural depressions or bottoms that serve as drainage ways for the adjoining fields. Usually there is also a meandering gully which has formed in these bottoms that has grown up in weeds or briars. If such places are smoothed over and seeded to some permanent sod they make excellent, permanently controlled outlet channels, and can be used as a hay strip or pasture.

It is often expensive to control outlet channels with permanent masonry structures, and it is believed that considerable expense can be saved by the use of these meadow strips. The extent to which meadow strips can be used will depend on the area drained and soil fertility, but under average conditions we believe they can be used on slopes with as much as 5%.

Before such meadow strips are seeded, all gullies should be filled and the bottom graded so that the strip will be practically flat to spread the water over a wide channel. Any concentration of water may cause a new gully to start. These meadow strips should not be used as a water channel until the sod has become well established, so they should be seeded some time before the fields are terraced or temporary side channels should be used which could be filled later.

A blue grass sod would probably give best control in these channels, but any good hay or pasture mixture might be used.

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### RECORD OF RAINFALL AT POINTS IN AREA DURING JUNE

Callands (Arnn's Store) . . . . .	2.90	Chatham Experiment Station . . . . .	4.37
Climax (Walker's Store) . . . . .	3.15	Sheva (Forney's Shop) . . . . .	3.57
Transient Camp . . . . .	4.23	Shockoe . . . . .	3.10
Jones' Mill . . . . .	4.10	Dry Fork (Bryant's Store) . . . . .	3.59

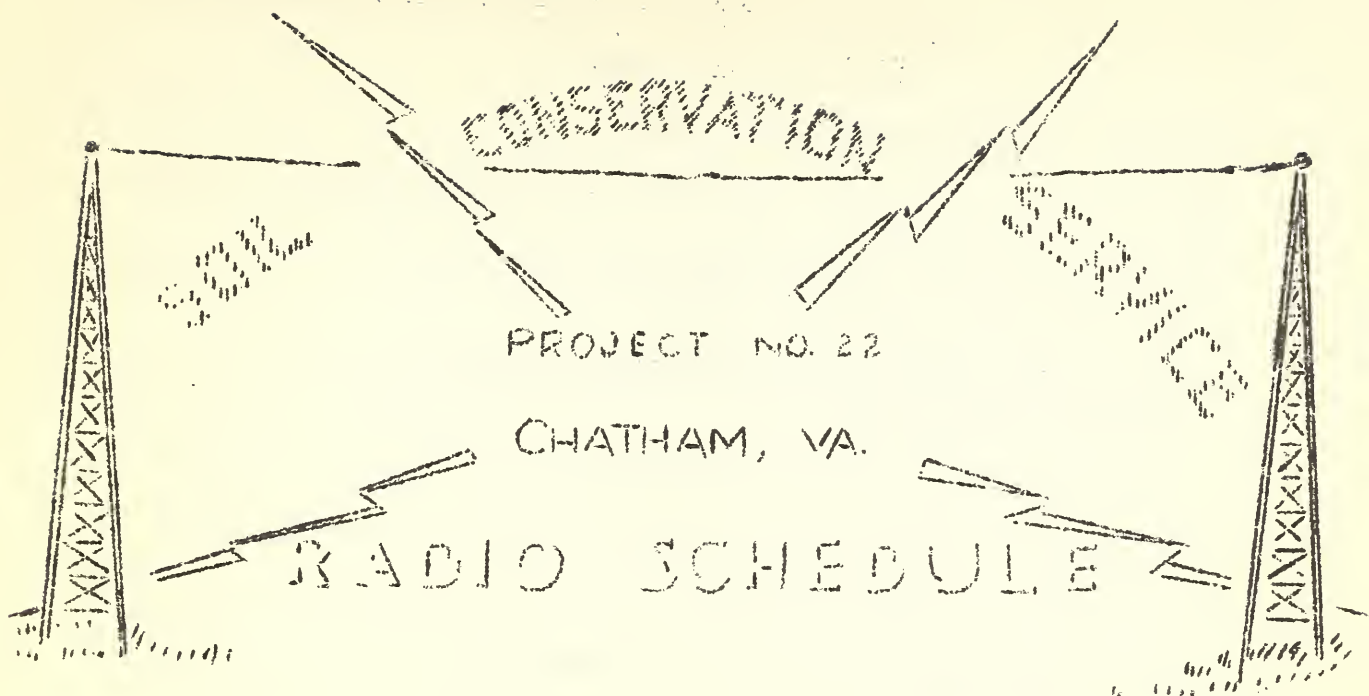
AVERAGE . . . 3.59

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### FIELD MEETING AT LOCAL EXPERIMENT STATION AUGUST 15, AT 2:00 P.M.

We take this opportunity of calling the attention of our cooperators to a field meeting at the Chatham Experiment Station August 15, at 2:00 P.M., as announced by Mr. E. M. Matthews, Superintendent of the Station, and hope most of them will make plans to attend. Much of the work carried on there deals with crop rotations and pasture improvement, two things which have a decided effect on soil erosion. In fact most of the cropping systems recommended by our Agronomy Department are well demonstrated at the local station, and we believe visitors will find the meeting both interesting and valuable.





STATION W.B.T.M., DANVILLE, VA., - FARM BULLETIN HOUR 1:00 P.M.

- July 2, 1935 - "The Farm Woodlot, A Soil Conservator", by  
C. J. Johnson, Junior Forester.
- July 9, 1935 - "The Farmer and Soil Conservation", by  
D. J. Berger, Erosion Department.
- July 16, 1935 - "The Part of the CCC Camp in the SCS Program  
in the Sandy River Area", by F. P. Trent,  
Superintendent, Camp SCS-VA-2.
- July 23, 1935 - "Terracing and Soil Erosion Control", by  
A. N. Holmes, Agricultural Aide.
- July 30, 1935 - "The Engineers Battle Against Soil Washing",  
by J. E. Wiggins, Jr., Junior Agri. Engineer.

STATION W. R. V. A., RICHMOND, VIRGINIA, - 2:30 to 2:45 P. M.

- July 11, 1935 - "Our Soil - Where Is It Going", by  
Alec Yedinak, Junior Soil Expert.
- July 18, 1935 - "Vegetative Control of Water Channels",  
by R. C. Harvey, Assistant Agronomist.
- July 25, 1935 - "Engineering and Erosion Control", by  
W. G. Nunn, Ass't. Agricultural Engineer.

STATISTICAL REPORT OF ACCOMPLISHMENTS-PROJECT NO. 22, CHATHAM, VIRGINIA

Period Ending June 30, 1935

BANISTER RIVER AREA

1. Number of cooperative agreements signed	610
2. Number of acres covered by cooperative agreements signed	74,692
3. Number of acres agreed to be retired from cultivation under cooperative agreements signed	5,543.5
4. Number of acres agreed to be strip-cropped under cooperative agreements signed	4,343
5. Number of acres actually strip-cropped	2,002
6. Number of acres agreed to be terraced	21,414.5
7. Number of acres actually terraced	4,185.5
8. Number of acres agreed to be contour-furrowed	2,052
9. Number of acres actually contour-furrowed	375
10. Number of gully control structures built	6,416
11. Number of acres planted to trees	573.21
12. Number of trees planted	573,210
13. Number of check dams in terrace outlets	3,800
14. Number farms surveyed	1,390
15. Number acres surveyed	152,912
16. Number farms mapped (soils)	1,115
17. Number acres mapped (soils)	133,920
18. Number invitations received	628
19. Number acres included in invitations	81,872
20. Number acres agreed to be contour-tilled	18,475.5

SANDY RIVER AREA

1. Farms put under agreement (Temporary)	65
2. Acres in farms put under agreement (Temporary)	859
3. Number of acres needing treatment	859
4. Acres for which no special erosion-control practices are planned	0
5. Acres agreed to be newly strip-cropped under contract	417
6. Number of acres on which treatment finished	576

Soil Conservation Nursery

During the month of June a 14 acre Forest Nursery was established on the south side of U. S. Highway #40, just east of the Southern Railway Bridge at Gretna. After thoroughly discing and preparing the land, an application of agricultural lime and fertilizer was added. Approximately 500 lbs. of black locust and 10 lbs. of kudzu seed were sown in beds 4 ft. wide and 20 ft. long. When large enough these plants will be raised and distributed to the various Soil Conservation Projects throughout Virginia. They will be used to plant gullies, gall spots and badly eroded hillsides.

In the future we anticipate propagation of such plant materials as rose cuttings, fruit trees, strawberries, asparagus, and other soil binding plants for use in erosion control work.

Black Locust and Erosion Control

Millions of acres of abandoned farm and other lands are eroding at an appalling rate throughout the uplands of the South. This erosion not only causes financial loss to the landowners; it also menaces cultivated fields and other property.

Soil binding vegetation, often employed in connection with small brush dams, affords a cheap and effective means of controlling the spread of gullies and washes. Although, because of the unproductive soils exposed in gullies, relatively few plant species can be grown on such sites. Certain trees, vines, and grasses have been successfully planted on eroded lands and have not only proved effective in reclaiming the soil, but have produced returns in wood products or forage.

One of the best and most widely used soil binders, in this area, is black locust. With its wide-spreading and interlacing root system, this rapid growing and valuable tree can halt erosion very effectively in a few years. It is not only particularly well adapted for growth on most eroded sites and exposed clay subsoils much too poor for agricultural use, but, like most legumes, it also builds up the soil by contributing nitrogen. Many huge washes, some as deep as 30 feet, and covering several acres, have been reclaimed by using this tree.

It is doubtful whether as large net money profits per acre have been derived, in periods of 10 to 20 years, from the growing of any forest-tree species, as those that are known definitely to have accrued from the growing of black locust.

The value of black locust trees consist in binding the soil and in checking erosion, making them very profitable. It is known that a crop of locust trees enriches the soil in much the same manner as a crop of alfalfa or crimson clover. The flowers are a source of large amounts of honey of good quality.

The increase in scarcity of chestnut for posts, poles, and stakes has done much to stimulate interest in the possibilities of growing and in the planting of locust. The expansion of the livestock business, including dairying, calls for greater numbers and better kinds of posts.

In gully control work, however, the merits of black locust in reclaiming and enriching soil should receive first consideration, particularly on less productive sites where monetary returns from wood production may not be so satisfactory.



### CAMP SCS-VA-1 NEWS

Safety--The First Consideration is the slogan of Enrollees, Officers and SCS Supervisory-Personnel at this Camp. Four of the Camp Boys, who had successfully passed the Red Cross Senior Life-Guard test conducted at Charlottesville, Virginia, from July 1, to July 8, act as life-guards while the boys engage in their favorite sport--Swimming. Transportation facilities are available on Sundays and Holidays for those enrollees who wish to swim in the neighboring lakes and pools.

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1st. Lt. Henry N. Bronk, Medical Officer with this Company since its organization May 30, 1933, accepted a position as CCC Sub-District Medical Inspector with Headquarters located at Stroudsburg, Pa. He will have direct medical supervision over 12 CCC Companies. Although the company regretted his departure on July 10, they all rejoiced in his being chosen out of 25 possible candidates who had been recommended for this position.

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Welcome 1st. Lt. Sydney E. Seidleman, as our new Medical Officer. May your connection with this company be enjoyable.

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Our company is again at full strength with the addition of 17 "rookies" who had been recruited from families within a radius of 50 miles of Danville, Va.

### CAMP SCS-VA-2 NEWS

Four crews, of 25 CCC enrollees each, have been doing soil conservation work in the Sandy River Area during the month of June. These men have constructed about 6,000 lin. ft. of terrace outlet channels; constructed 216 permanent and 75 temporary dams in outlet channels; prepared the seed beds and seeded about 1,000 sq. yds. of outlet channel banks. They have also sloped the sides of a number of large gullies and prepared them for seeding this fall.

We find the farmers of this area very much interested in the work. The owners of the farms on which we have worked have shown a splendid spirit of cooperation. This has helped us considerably in our work. We hope that we may continue to find this spirit in our area.

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Our baseball team hasn't been as successful as we had hoped for this season. However, we have an average of a little better than .500 . We have won 9 and lost 7 of the 16 games played.

Our boys have been enjoying the "Ole Swimming Hole", at Stony Mill, every other afternoon during the unusually hot weather of the past few weeks.